



# Service Manual

REPAIR & ADJUSTMENTS



ORDER NO.  
ARP-142-0

## STEREO TURNTABLE PL-05

MODEL PL-05 COMES IN FOUR VERSIONS DISTINGUISHED AS FOLLOWS:

Type	Voltage	Remarks
HE	220V and 240V (Switchable)	Europe model
HB	220V and 240V (Switchable)	U.K. model
S	110V, 120V, 220V and 240V (Switchable)	General export model
S/G	110V, 120V, 220V and 240V (Switchable)	U.S. military model

- This is the service manual for model PL-05/HE. For servicing of the HB, S and S/G types, please refer to the additional service manual on page 25.
- For the circuit & mechanism description, please refer to the PL-88F service manual (ARP-143).
- Ce manuel d'instruction se réfère au mode de réglage, en français.
- Este manual de servicio trata del método de ajuste escrito en español.

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# 1. SPECIFICATIONS

## Motor and Turntable

Drive System .....	Belt-drive
Motor .....	DC motor
Turntable Platter ....	280 mm diam. aluminum alloy die-cast
Speeds .....	33-1/3 and 45 rpm
Wow and Flutter .....	Less than 0.045% (WRMS)
Signal-to-Noise Ratio .....	More than 70 dB (DIN-B)
(with Pioneer cartridge model PC-3MC)	

## Tonearm

Type .....	Integrated straight pipe arm
------------	------------------------------

## PC-3MC Specifications

Type .....	Moving coil type
Stylus .....	0.5 mil diamond (PN-3 MC)
Output Voltage .....	2.5 mV
(1 kHz, 50 mm/s Peak velocity, LAT)	
Tracking Force .....	1.7 g to 2.3 g (proper 2 g)
Frequency Response .....	10 to 32,000 Hz
Recommended Load .....	50 k $\Omega$
Weight .....	3.1 g

## Accessory mechanisms

Full-auto functions based on motor specially designed for tonearm  
 Auto disc size selector (17 cm, 30 cm)  
 Arm elevation mechanism  
 Built-in anti-skating

## Miscellaneous

Power Requirements .....	AC220/240 V ~ (switchable), 50, 60 Hz
Power Consumption .....	15 W
Dimensions .....	420 (W) x 98 (H) x 335 (D) mm 16-1/2 (W) x 3-3/4 (H) x 14-1/4 (D) in.
Weight .....	9 kg/19 lb 14 oz

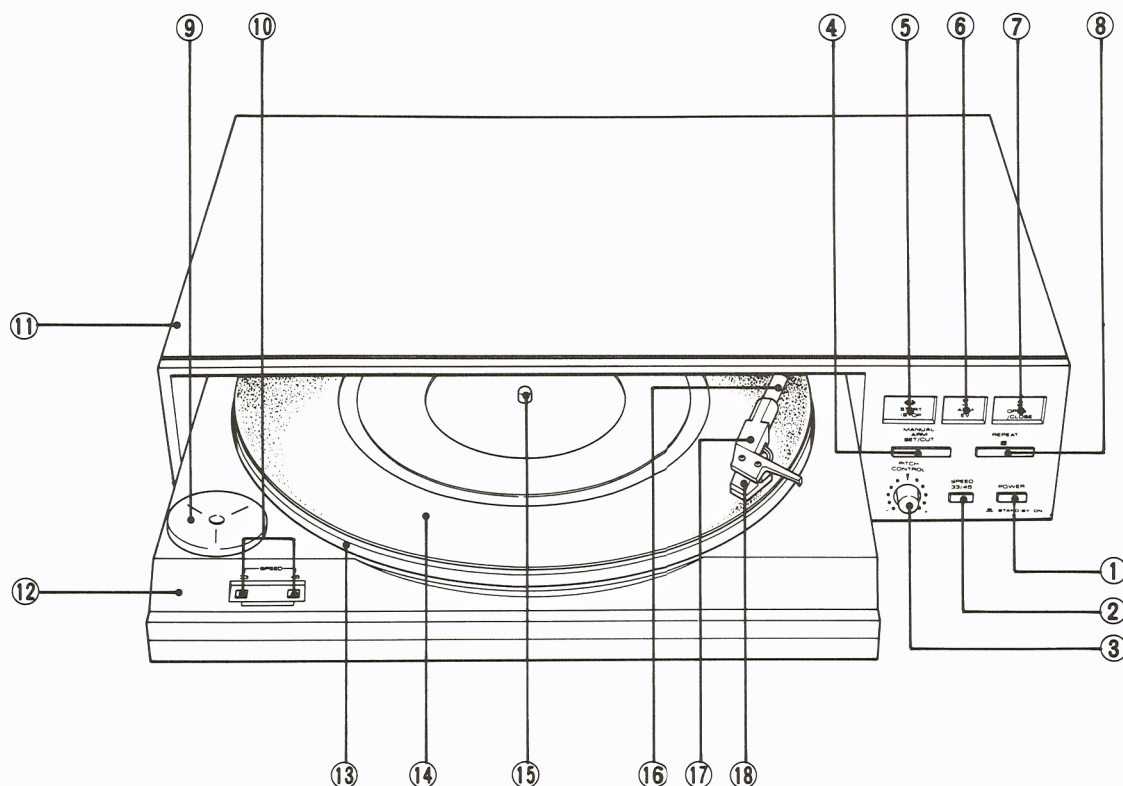
## Accessories

EP Adaptor .....	1
Operating Instructions .....	1

### NOTE:

Specifications and design subject to possible modification without notice, due to improvements.

# 2. FRONT PANEL FACILITIES





### ① POWER switch

Press this switch to turn the power on and stand-by.


Depressed (  ) position:

Power is switched ON.

Released (  ) position:

Power is switched STAND-BY.

When the POWER switch is set to ON, the following switches are set automatically

ARM ELEVATION switch → , MANUAL ARM SET/CUT switch → OFF, REPEAT switch → OFF

### ② SPEED selector switch

This is pressed so that the speed indicator lights in line with the rated speed of the record which is to be played.

“(33)” lights:

For playing 33-1/3rpm records.

“(45)” lights:

For playing 45 rpm records.

### ③ PITCH CONTROL

This is used to finely adjust the platter speed.

[▼]: Rated 33-1/3 or 45 rpm speed

[+] rotation: The speed is increased (up to 6%).

[-] rotation: The speed is reduced (up to 6%).

### ④ MANUAL ARM SET/CUT switch

- Press this switch for manual play.
- Press this switch to stop manual play.

### ⑤ START/STOP switch

- Press this switch to start auto play.
- Press this switch to stop auto play.

### ⑥ ARM ELEVATION switch/indicator ( )

- Press this switch to start manual play.
- Use the switch to suspend record play temporarily.
- Use the switch when changing the tracks (with manual play) during actual play.

“  ” indicator lights:

The tonearm rises (the stylus moves away from the record).

“  ” indicator goes off:

The tonearm descends (the stylus is lowered onto the record).

### ⑦ OPEN/CLOSE switch.

- This is pressed to open and close the door and to bring out and retract the slide base.
- It is also pressed to stop auto play.

### ⑧ REPEAT switch/indicator

Press this switch so that the indicator lights for repeat play.

### ⑨ EP adaptor/EP adaptor holder

Slide the EP adaptor over the platter shaft when the record you want to play does not have a “middle”.

Keep the adaptor on the holder when it is not in used.

#### NOTE:

Make sure that you use the EP adaptor which is supplied with this unit. Using any other adaptor may invite contact with the stylus with the result that the stylus may be damaged.

### ⑩ Speed indicators (33, 45)

These indicate the platter speed.

“(33)” lights:

Platter is rotating at 33-1/3 rpm.

“(45)” lights:

Platter is rotating at 45 rpm.

### ⑪ Bonnet

### ⑫ Slide base

### ⑬ Platter

### ⑭ Rubber mat

#### NOTE:

Always use the rubber mat which is supplied with this unit. Using a different rubber mat will change the stylus height and may cause malfunctions.

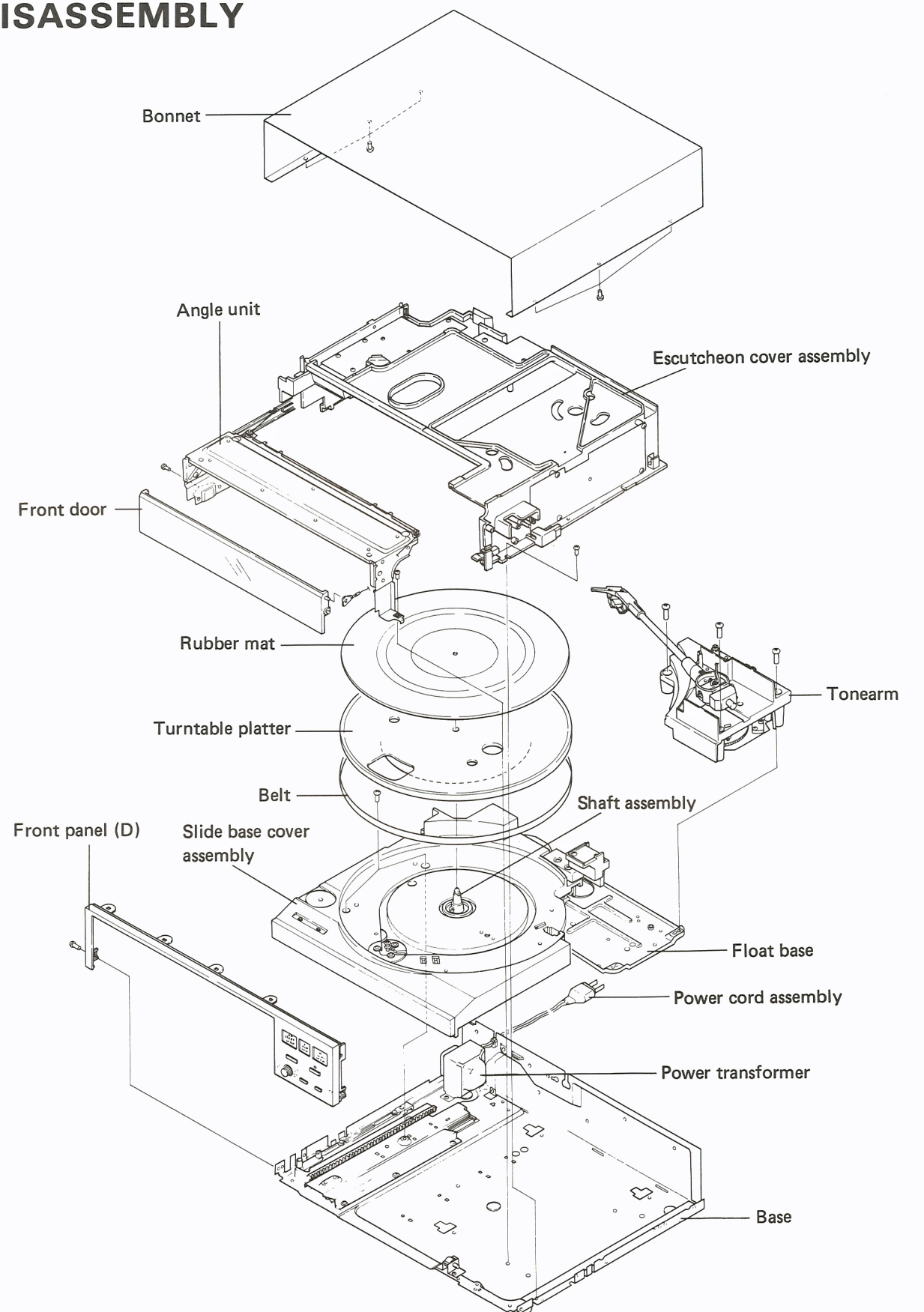
### ⑮ Platter shaft

### ⑯ Tonearm

### ⑰ Headshell

### ⑱ Cartridge (PC-3MC)

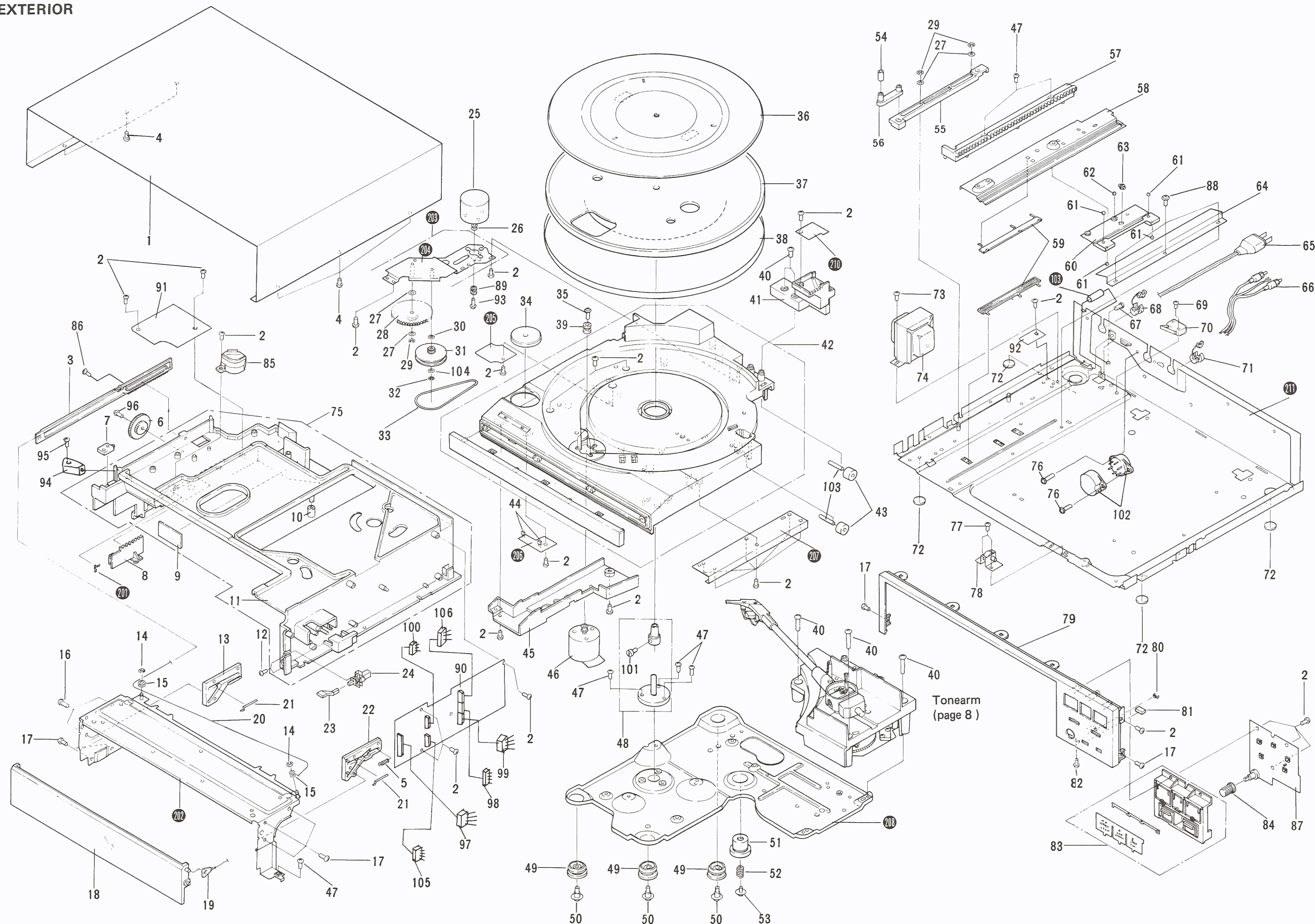
## 3. DISASSEMBLY






## 4. EXPLODED VIEWS

## 4.1 EXTERIOR







**NOTES:**

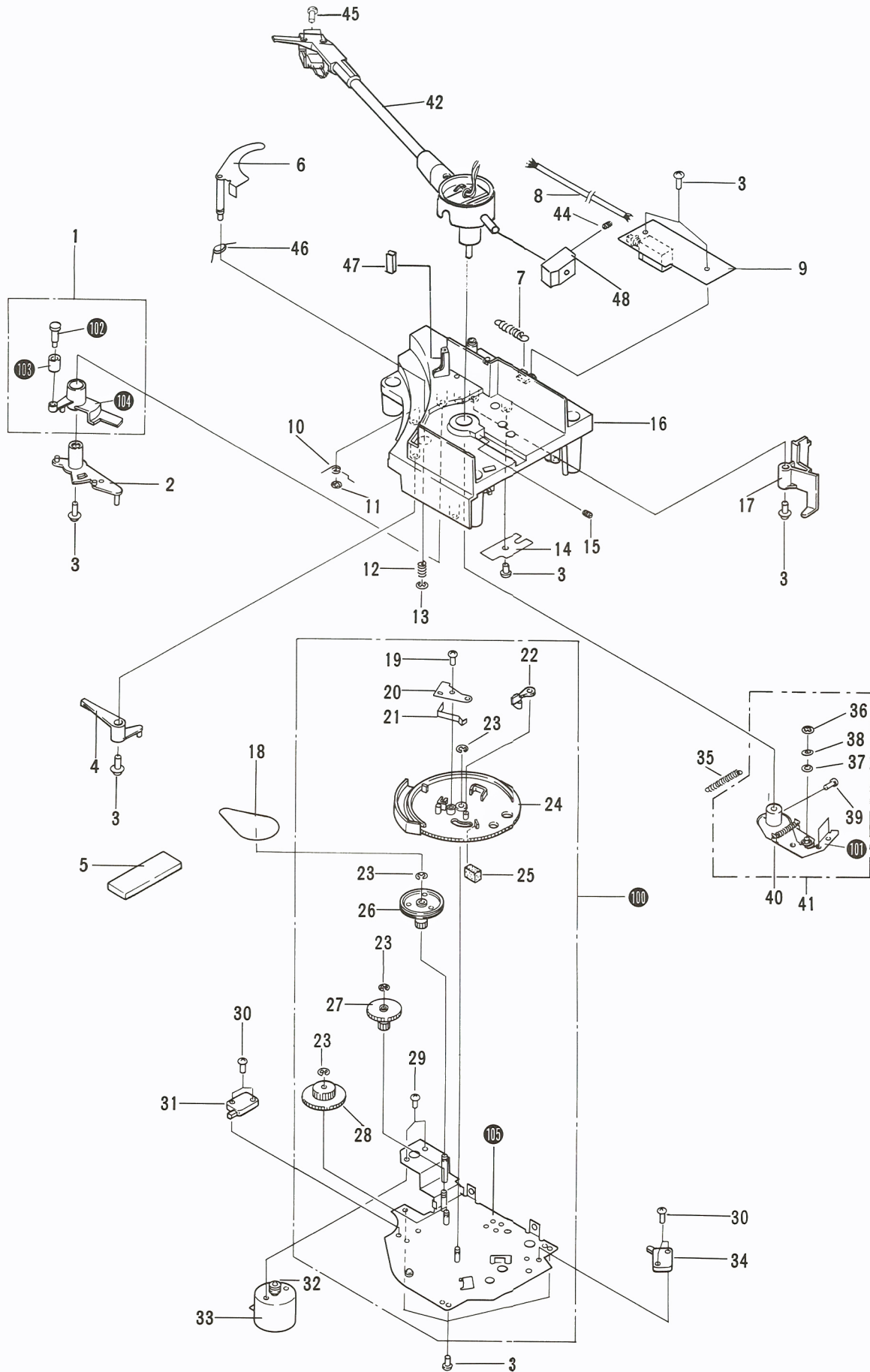
- *Parts without part number cannot be supplied.*
- *The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks **★★** and **★**.*

**★★ GENERALLY MOVES FASTER THAN ★**

*This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.*

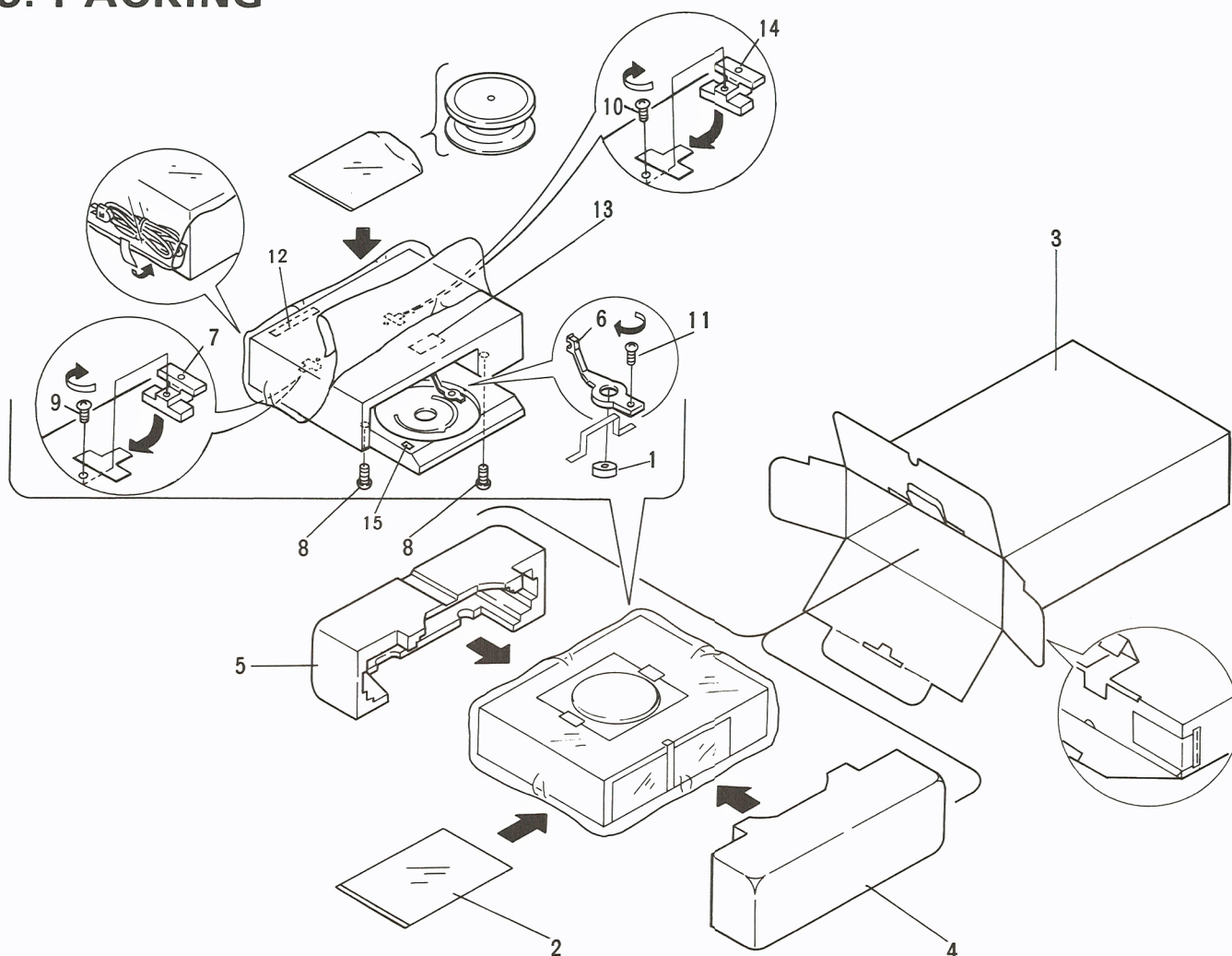
**Parts List**

Mark	No.	Part No.	Symbol & Description	Mark	No.	Part No.	Symbol & Description
	1.	PNA-171	Bonnet		41.	PNX-450	Wire guide
	2.	PPZ30P080FMC	Screw		42.	PXB-262	Slide base cover assembly
	3.	PNX-437	Driving lever rack		43.	PNX-424	Roller
	4.	PDZ30P060FZK	Screw	★	44.	GL-9PG12	LED
	5.	PBH-342	Spring		45.	PNX-441	P.C. board cover
★★	6.	PNX-436	Gear (F)	★★	46.	PYY-114	Motor
	7.	PSH-007	Slide switch		47.	IDZ30P080FMC	Screw
	8.	PNX-435	Slider		48.	PXB-274	Shaft assembly
	9.	PED-023	Rubber cushion		49.	PEB-209	Damper rubber
	10.	PEB-207	Cushion		50.	PBA-141	Screw (B)
	11.	PNX-477	Escutcheon cover		51.	PEB-208	Damper rubber
	12.	PMA30P080FMC	Screw		52.	PBH-335	Spring (A)
	13.	PNX-438	Door holder (L)		53.	PBA-140	Screw (A)
	14.	YE25S	Washer		54.	PNX-434	Lock lever roller
	15.	PNX-440	Pulley		55.	PNX-433	Lock lever
	16.	PPZ26P050FZK	Screw		56.	PNX-432	Lock plate
	17.	PDZ30P050FMC	Screw		57.	PNX-431	Lowering rack
	18.	PNX-378	Front door		58.	PNC-251	Slide rail
	19.	PYY-115	Door holder assembly		59.	PNX-428	Slide rail rack
	20.	PBL-001	Wire		60.	PNX-426	Retainer
	21.	PBK-058	Spring		61.		Steel ball 4φ
	22.	PNX-439	Door holder (R)		62.		Steel ball 6φ
★★	23.	PNX-420	Power knob		63.	PNX-231	Gear
★★	24.	PSG-024	Power switch		64.	PNC-253	Rail cover
	25.	PXM-117	Motor		65.	PDF-170	Power cord assembly (HE)
★★	26.	PNX-449	Motor pulley		66.	PXB-280	PU cord assembly
	27.	WA41D065D025	Flat washer		67.	PMZ30P150FMC	Screw
	28.	PNX-430	Gear (E)		68.	PEC-048	Strain relief (Power cord)
	29.	YE30S	Washer		69.	PBA-138	Screw
	30.	WA31D054D025	Flat washer	★★	70.	PSH-009	Slide switch
	31.	PNX-429	Gear (D)		71.	PEC-051	Strain relief (PU cord)
★★	32.	YE20S	Washer		72.	PEC-082	Stopper (rubber)
	33.	PEB-206	Belt		73.	PMA40P060FMC	Screw
	34.	PNX-442	45 adaptor	 ★	74.	PTT-152	Power transformer
	35.	PBA-112	Screw		75.	PXB-291	Escutch cover assembly
	36.	PEB-205	Rubber mat assembly		76.	PDZ30P 060FZK	Screw
★★	37.	PNR-174	Turntable platter		77.	PDZ30P060FMC	Screw
	38.	PEB-183	Belt		78.	PXB-278	Roller angle assembly
	39.	PEB-172	Cushion		79.	PNX-480	Front panel (D)
	40.	IPZ30P080FMC	Screw		80.	PNX-413	Lens (A)





## 5. PACKING



### Parts List

Mark	No.	Part No.	Description
	1.	PNX-442	45 adaptor
	2.	PRD-081	Operating instructions
	3.	PHH-011	Packing case
	4.	PHA-146	Protector (F)
	5.	PHA-147	Protector (R)
	6.	PNX-451	Tonearm holder
	7.	PNX-452	Spacer
	8.	PBA-141	Screw (B)
	9.	IPZ40P250FMC	Screw
	10.	PMZ40P160FMC	Screw
	11.	IPZ30P120FMC	Screw
	12.	PRW-095	Note paper
	13.	PRW-096	Note paper
	14.	PNX-474	Spacer (A)
	15.	PRW-098	Note paper

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	81.	PNX-419	Speed knob		101.	PMZ30P080FMC	Screw
	82.	IDZ30P060FZK	Screw	⚠ ★★	102.	PSB-002	Line voltage selector
	83.	PXT-489	Panel stay unit		103.		Shaft
	84.	PAC-112	Volume knob		104.	WA31D054D050	
	85.	PNX-425	Lamp cover		105.	PDE-180	Connector assembly
					106.	PDE-178	Connector assembly
	86.	IPZ30P100FMC	Screw		201.		Rail stopper
	87.	PWX-073	Function assembly		202.		Angle unit
	88.	IDZ30P060FMC	Screw		203.		Gear base assembly
	89.	PEB-184	Rubber cushion		204.		Gear base unit
	90.	XWM-112	Control assembly		205.		Photo transistor assembly
	91.	XWR-032	Power supply assembly		206.		LED assembly
	92.	XWX-107	Regulator assembly		207.		Roller plate
	93.	PBA-125	Screw		208.		Float base
	94.	PEB-211	Rubber		209.		.....
	95.	PBA-126	Screw		210.		Wire holder
	96.	PBA-146	Screw		211.		Base
	97.	PDE-174	Connector assembly		212.		
	98.	PDE-175	Connector assembly				
	99.	PDE-176	Connector assembly				
	100.	PDE-179	Connector assembly				

4.2 TONEARM

Parts List

Mark	No.	Part No.	Symbol & Description	Mark	No.	Part No.	Description
	1.	PXB-275	Cam assembly	★★	31.	PSH-007	Slide switch
	2.	PNX-443	Adjust lever	★★	32.	PNW-392	Motor pulley
	3.	IPZ30P080FMC	Screw	★★	33.	PXM-116	Motor
	4.	PNX-422	Reset lever	★★	34.	PSH-004	Slide switch
	5.	PDE-179	Connector assembly		35.	PBH-329	AS spring
	6.	PXT-477	EV sheet unit		36.	YS40S	Washer
	7.	PBH-332	Muting lever spring		37.	PBE-019	PU spring washer
	8.	PDA-024	PU lead wire		38.	WB40FMC	Flat washer
	9.	XWX-093	Muting assembly		39.	PMD40P060FMC	Screw M4 × 6
	10.	PBH-330	Set spring		40.	PBH-331	PU plate spring
	11.	YS40FBT	Washer		41.	PXB-276	PU plate assembly
	12.	PBH-326	EV spring	★	42.	PPD-630	Tonearm assembly
	13.	YE50S	Washer		43.	.....	
	14.	XWX-092	Sensing assembly		44.	ZMK50H100FBT	Screw
	15.	ZMK40H100FBT	Screw		45.	PBA-537	Cartridge mounting screw
	16.	PNX-415	Tonearm base		46.	PBH-344	Spring
	17.	PNX-423	Muting lever		47.	PDE-024	Cushion
★★	18.	PEB-185	Belt	★	48.	RNR-532	Weight
	19.	PPZ30P050FMC	Screw		49.		
	20.	PNC-244	Holder		50.		
	21.	PBK-057	Plate spring		100.		Base assembly
	22.	PNX-398	Lead in ratch		101.		PU plate
	23.	YE30S	Washer		102.		Holder
	24.	PNX-416	Driving plate		103.		Roller
	25.	PED-022	Cushion		104.		Cam
					105.		Base unit
	26.	PNX-396	Gear (C)				
	27.	PNX-395	Gear (B)				
	28.	PNX-394	Gear (A)				
	29.	PMZ20P040FMC	Screw				
	30.	PBA-138	Screw				



6. ELECTRICAL PARTS LIST

- NOTES:
- When ordering resistors, first convert resistance values into code form as shown in the following examples.  
Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).  
560Ω      56 × 10<sup>1</sup>      561 . . . . . RD¼PS 561 J  
47kΩ      47 × 10<sup>3</sup>      473 . . . . . RD¼PS 473 J  
0.5Ω      0R5      . . . . . RN2H 0R5 K  
1Ω      010      . . . . . RS1P 010 K  
Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).  
5.62kΩ      562 × 10<sup>1</sup>      5621 . . . . . RN¼SR 5621 F
  - The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
  - For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★ .  
★★ GENERALLY MOVES FASTER THAN ★  
This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

MISCELLANEOUS PARTS

P.C. BOARD ASSEMBLY

Mark	Part No.	Symbol & Description
⚠	XWM-112	Control assembly
	XWR-032	Power supply assembly
	XWX-107	Regulator assembly
	PWX-073	Function assembly
		LED assembly
		LED assembly A
		Photo transistor assembly
	XWX-092	Sensing assembly
	XWX-093	Muting assembly

\*LED assembly is composed of LED assembly A, Photo transistor assembly.

SWITCHES, SEMICONDUCTOR

Mark	Part No.	Symbol & Description
★★	PSG-024	Power switch
★★	PSH-009	Slide switch
★★	PSH-007	Slide switch
★★	PSH-004	Slide switch
⚠★★	PSB-002	Line voltage selector
★	GL-9PG12	LED

MOTORS, OTHERS

Mark	Part No.	Symbol & Description
★★	PYY-114	Motor assembly (Phono)
★★	PXM-116	Motor (Tonearm)
★★	PXM-117	Motor (Slide base)
⚠★	PTT-152	Power transformer (220V, 240V)
⚠	PDF-170	Power cord assembly

CONTROL ASSEMBLY (XWM-112)

CAPACITORS

Mark	Part No.	Symbol & Description
	CEA 100M 16L	C6, C10
	CEA 1R0M 50L	C8, C9
	CKDYF 104Z 50	C11
	CKDYF 103Z 50	C7
	CSZA 6R8K 16	C12

RESISTORS

NOTE:When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Part No.	Symbol & Description
★	PCP-075	VR1      Semi-fixed
★	PCP-069	VR2      Semi-fixed
★	PCP-067	VR3      Semi-fixed
	RS1PF 151J	R10
	RS2HSFB330JL	R11
	RGSD8X472J	R19
	RD¼PM □□□J	R3—R6, R9, R12—R18, R31
	RN¼PR □□□□F	R7, R8

SEMICONDUCTORS

Mark	Part No.	Symbol & Description
★★	BA6109	IC3
★★	BA6208	IC4
★★	PD2003	IC5
★★	2SC1815 (2SC2458) (2SC945)	Q1, Q4, Q5
★★	2SC945-P	Q2
★★	2SC1959	Q3

Mark	Part No.	Symbol & Description
★	BZ-061	D2
★	RD3.6EB	D3
★	1S2473 (1S1555)	D4, D5
★	1S1885	D6
★	VD1222	D12, D13

POWER SUPPLY ASSEMBLY (XWR-032)

CAPACITORS

Mark	Part No.	Symbol & Description
	PCL-040	C1
	CEA 471M 35L	C2
	CEA 1R0M 50L	C3
	CEA R47M 50L	C4, C5

RESISTORS

Mark	Part No.	Symbol & Description
	RS1HSFB 220JL	R1
	RS2PF 151J	R2

SEMICONDUCTORS

Mark	Part No.	Symbol & Description
★★	NJM78M05A	IC2
★	PCX-010 (WL-02)	D1

LAMP, FUSE, OTHER

Mark	Part No.	Symbol & Description
★★	PEL-051	L1      Lamp
★★	PEK-038	Fuse T630mA
	PNY-009	Lamp holder

REGULATOR ASSEMBLY (XWX-107)

Mark	Part No.	Symbol & Description
★★	NJM7815A	IC1
	PDE-196	Connector Assembly (3P)

FUNCTION ASSEMBLY (PWX-073)

SWITCHES

Mark	Part No.	Symbol & Description
★★	PSG-038	S1—S5
★★	PSG-039	S6

RESISTORS, SEMICONDUCTORS

Mark	Part No.	Symbol & Description
★	PCS-025	VR4      Volume
	PD¼PM 221J	R20, R21
★	AA5534S	D10
★	GL-9NG12	D11

OTHERS

Mark	Part No.	Symbol & Description
	PNX-445	LED holder (A)
	PNX-446	LED holder (B)
	PDE-174	Connector assembly (14P)

LED ASSEMBLY

Mark	Part No.	Symbol & Description
	PDE-175	Connector assembly

LED ASSEMBLY A

Mark	Part No.	Symbol & Description
	RD¼PM271J	R28, R29
★	1S2473 (1S1555)	D9

PHOTO TRANSISTOR ASSEMBLY

Mark	Part No.	Symbol & Description
★★	PH101	Q6

\*LED assembly is composed of LED assembly A, Photo transistor assembly.

SENSING ASSEMBLY (XWX-092)

Mark	Part No.	Symbol & Description
★	PCX-031	Cds
★★	PEL-048	L2      Lamp
	PNX-302	Lamp holder
	PDE-176	Connector assembly

MUTING ASSEMBLY (XWX-093)

Mark	Part No.	Symbol & Description
★★	PSG-043	S13      Push switch
	PDF-145	GND wire



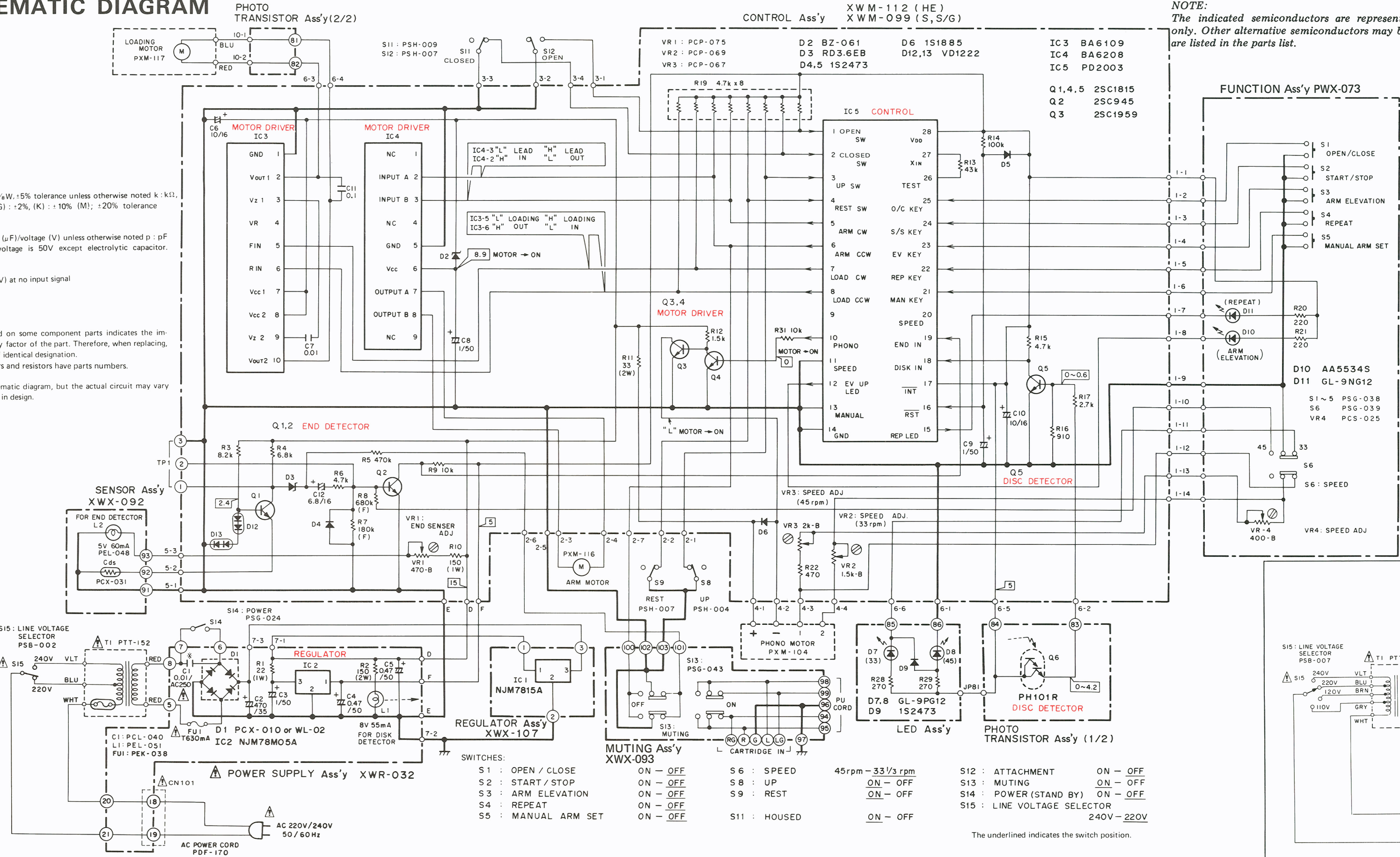




8. SCHEMATIC DIAGRAM

1. RESISTORS:  
Indicated in  $\Omega$ ,  $\frac{1}{4}W$ ,  $\frac{1}{2}W$ ,  $\pm 5\%$  tolerance unless otherwise noted k: k $\Omega$ , M: M $\Omega$ , (F):  $\pm 1\%$ , (G):  $\pm 2\%$ , (K):  $\pm 10\%$  (M):  $\pm 20\%$  tolerance
2. CAPACITORS:  
Indicated in capacity ( $\mu F$ )/voltage (V) unless otherwise noted p: pF  
Indication without voltage is 50V except electrolytic capacitor.
3. VOLTAGE  
: DC voltage (V) at no input signal
4. OTHERS:  
: Signal route.  
: Adjusting point.  
The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.  
\* marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.





## 9. ADJUSTMENTS

### 9.1 STYLUS LOWERING POSITION ADJUSTMENT

1. Press the OPEN/CLOSE key, pull the slide base out forwards, place a 30cm record on the turntable platter, and set the correct revolution by the speed selector.
2. Press the START key to start play. Check the direction and degree of stylus displacement at this time.  
(Estimate the approximate distance in mm that the stylus lands from the lead-in groove).
3. Depending on the direction and degree of displacement, adjust the adjustment screw indicated in Fig. 9.1 with a small screwdriver.
  - \* Turn the screw clockwise (as seen from above) if the stylus lowers inside the lead-in groove.
  - \* Turn the screw counter clockwise (as seen from above) if the stylus lowers inside the lead-in groove.
  - \* One half-turn of the screw corresponds to a shift of about 9mm in the lowering position.
4. When using the PLS-2001S test record, adjust the screw to obtain a count in the 305 to 317 range for lowering onto a 30cm record. And if the GGF-021 test record is used, adjust to a count between 6 and 30 for a 30cm record.

#### Notes:

- \* Removal of the bonnet simplifies adjustment operations. In this case, adjustments can be performed from the top of the escutcheon cover.
- \* Do not incline the turntable over too far, not apply excessive pressure to the adjustment screw during the adjustment operation.

### 9.2 END DETECTOR ADJUSTMENT

1. Remove the bonnet, switch the power on, press the OPEN/CLOSE key, and pull the slide base out forwards.
2. Press the MANUAL key to put the turntable into manual play mode, and then switch the power off.
3. Disconnect the CN2 and CN4 connectors on the common circuit board, and connect a DC voltmeter to pin 1 and pin 3 (GND) of TP1.
4. Switch the power back on, move the stylus to a position 47.5mm from the center spindle, and read the voltage.
5. Then move the stylus to a position 57.5mm away from the center spindle and read the meter again. The difference between the two voltage readings should be  $5.6V \pm 0.2V$ . Adjust VR1 to obtain this difference.

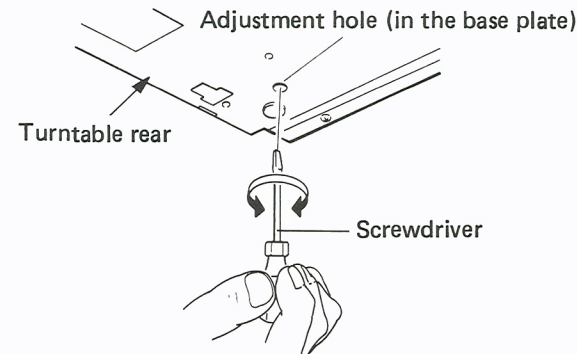


Fig. 9.1 Stylus Lowering Position Adjustment

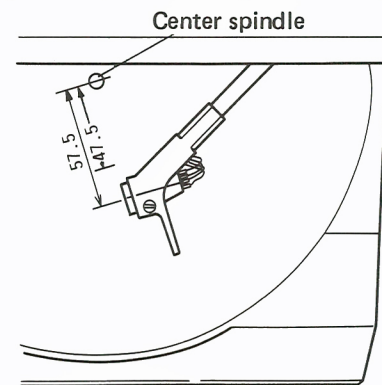


Fig. 9.2 End Detector Adjustment 1

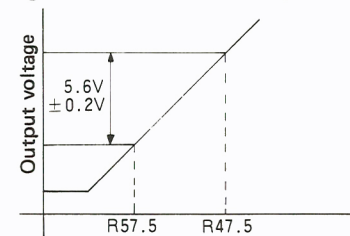


Fig. 9.3 End Detector Adjustment 2

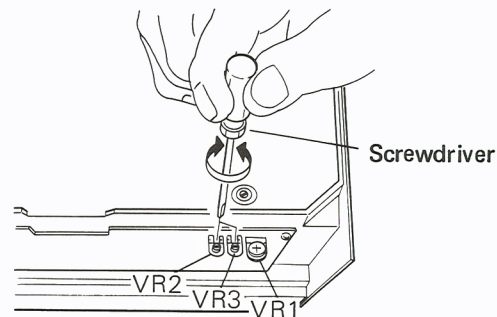
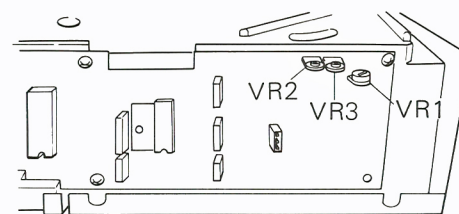


Fig. 9.4 Adjustment Position

6. The voltage difference is decreased by turning VR1 clockwise, and increase by turning counter clockwise (see Fig. 9.4).

#### Note:

Shade the sensor section from external light during this adjustment.

### 9.3 PHONO MOTOR SPEED ADJUSTMENT

1. Remove the bonnet and switch the power on. Place a stroboscope on the turntable platter, and press the MANUAL key to put the turntable into manual play mode.
2. Switch the speed selector to 33-1/3rpm, and adjust VR2 to obtain the "stationary" strobo effect.
3. Then switch the speed selector to 45rpm, and adjust VR3 to again obtain the "stationary" strobo effect.
4. Turntable speed is increased by turning the adjustment controls (VR2 and VR3) clockwise, and decreased by turning counter clockwise.

#### Note:

Adjust the phono motor speed after first adjusting the pitch control knob to the center click stop.

### 9.4 STYLUS HEIGHT ADJUSTMENT

1. Remove the bonnet, switch the power on, press the OPEN/CLOSE key, and pull the slide base out forwards.
2. Place a record on the turntable platter, and press the MANUAL key to move the tonearm forward.
3. While holding the tonearm in the left hand, adjust the adjustment screw with a wrench (1.5mm) passed through the adjustment hole as shown in Fig. 9.6.
4. Adjust the stylus to a height 5 to 9mm above the record.

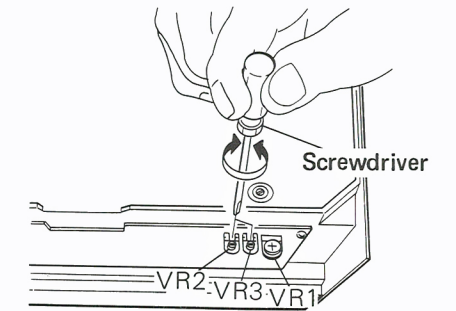
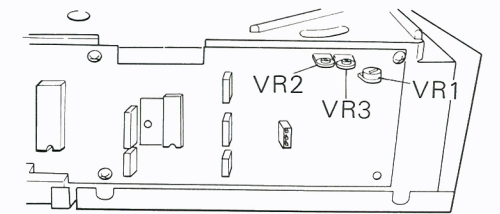


Fig. 9.5 Phono Motor Speed Adjustment

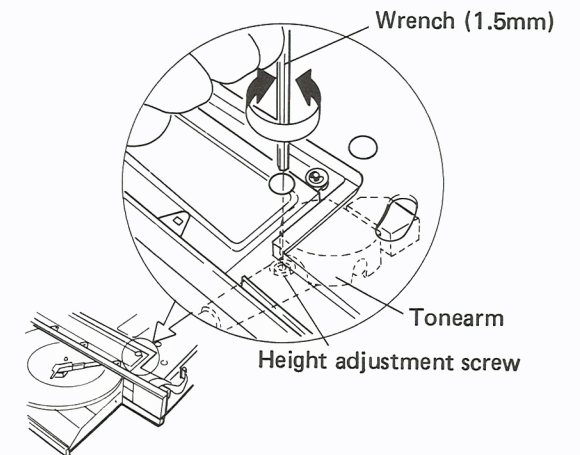


Fig. 9.6 Stylus Height Adjustment

## 9. RÉGLAGE

### 9.1 RÉGLAGE DE L'EMPLACEMENT D'ABAISSEMENT DE L'AIGUILLE.

1. Presser la clé OPEN/COLSE, tirer la base coulissante vers l'avant, mettre un disque de 30cm. sur le plateau et positionner le sélecteur de vitesse sur la révolution correct.
2. Presser la clé START pour faire marcher le tourne-disques. Vérifier la direction et le degré de déplacement de l'aiguille à ce moment. (Estimer la distance en mm. de l'éloignement de l'aiguille du premier sillon.)
3. Selon la direction et le degré de déplacement, régler la vis de réglage avec un petit tournevis comme il est indiqué Fig. 9.1.
  - \* Tourner la vis vers la droite (en regardant du dessus) si l'aiguille s'abaisse à l'intérieur du premier sillon.
  - \* Tourner la vis vers la gauche (en regardant du dessus) si l'aiguille s'abaisse à l'extérieur du premier sillon.
  - \* Un demi tour de la vis correspond à un déplacement de la position d'abaissement de 9mm environ.
4. Lorsque le disque d'essai PLS-2001S est utilisé, régler la vis pour obtenir une lecture entre 305 et 317 pour l'abaissement sur un disque de 30cm. Pour le disque d'essai GGF-021, régler pour obtenir une lecture entre 3 et 30 pour un disque de 30cm.

#### Remarques:

- \* Enlever le capot facilite l'opération de réglage. Dans ce cas, le réglage s'opère par le haut, sous le couvercle à blason.
- \* Ne pas incliner le tourne-disques exagérément, ne pas appuyer trop fortement sur la vis de réglage pendant l'opération.

### 9.2 RÉGLAGE DU DÉTECTEUR DE FIN

1. Enlever le capot, mettre l'appareil sous tension, presser la clé OPEN/CLOSE et tirer la base coulissante vers l'avant.
2. Presser la clé MANUAL pour mettre l'appareil en mode manuel, puis couper l'alimentation.
3. Débrancher les prises CN2 et CN4 de la plaque de circuits commune et brancher un voltmètre DC sur les ergots 1 et 3 (GND) de TP1.
4. Remettre sous tension et amener l'aiguille à une position 47,5mm du pignon central. Lire le voltage.

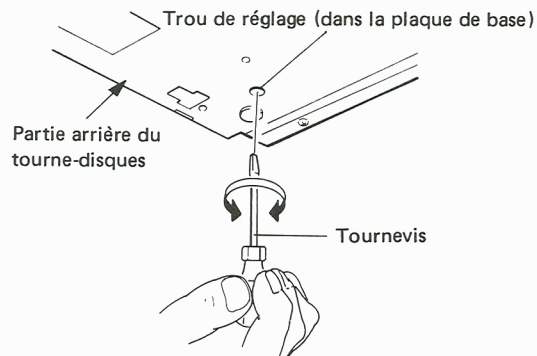


Fig. 9-1 Réglage d'abaissement de position de l'aiguille

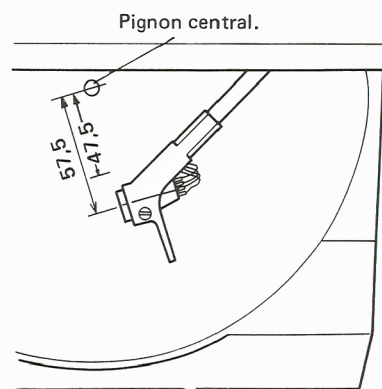


Fig. 9-2 Réglage 1 du détecteur de fin

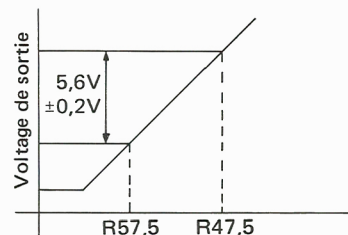


Fig. 9-3 Réglage 2 du détecteur de fin

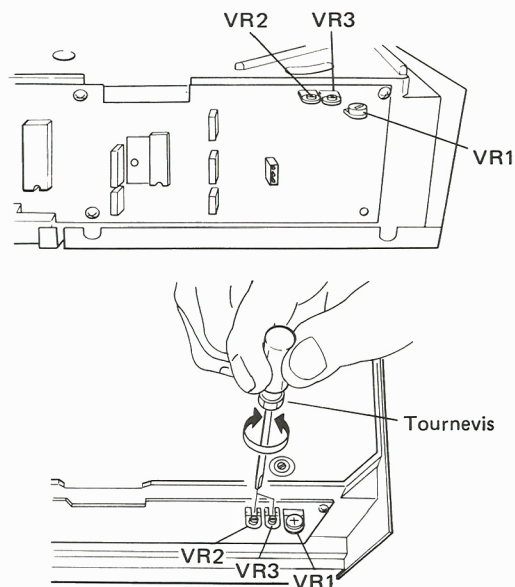


Fig. 9-4 Réglage de position



5. Puis, déplacer l'aiguille vers une position 57,5 mm du pignon central et lire à nouveau l'indication du voltmètre. La différence entre les deux voltages devrait être de  $5,6V \pm 0,2V$ . Régler VR1 pour obtenir cette différence.
6. La différence de voltage est diminuée en tournant VR1 vers la droite, et augmentée en le tournant vers la gauche. (Voir Fig. 9.4)

*Remarque:*

*Faire de l'ombre au-dessus du senseur pendant ce réglage.*

### 9.3 RÉGLAGE DE LA VITESSE DU MOTEUR PHONO

1. Enlever le capot et mettre sous tension. Placer un stroboscope sur le plateau du tourne-disques et presser la clé MANUAL pour mettre l'appareil en mode manuel.
2. Positionner le sélecteur de vitesse sur 33-1/3 tpm. et régler VR2 pour obtenir l'effet stroboscopique stationnaire.
3. Puis positionner le sélecteur de vitesse sur 45 tpm. et régler VR3 pour obtenir à nouveau l'effet stroboscopique stationnaire.
4. La vitesse du plateau est augmentée en tournant les contrôles de réglage (VR2 et VR3) vers la droite, elle est diminuée en tournant vers la gauche.

*Remarque:*

*Régler la vitesse du moteur phono après avoir réglé le bouton de contrôle de niveau de son sur le cliquet arrêt central.*

### 9.4 RÉGLAGE DE HAUTEUR DE L'AIGUILLE

1. Enlever le capot, mettre sous tension, presser la clé OPEN/CLOSE et tirer la base coulissante vers l'avant.
2. Placer un disque sur le plateau du tourne-disques et presser la clé MANUAL pour faire avancer le bras de pick-up vers l'avant.
3. Tout en tenant le bras de pick-up de la main gauche, régler la vis de réglage avec une clé (1,5mm) passée à travers le trou de réglage comme indiqué Fig. 9.6.
4. Régler l'aiguille à une hauteur de 5 à 9mm au-dessus du disque.

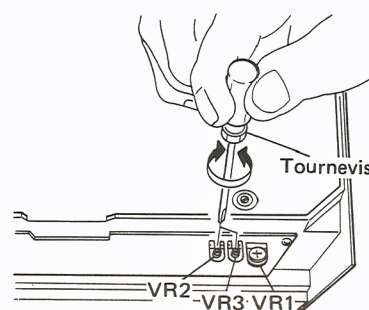
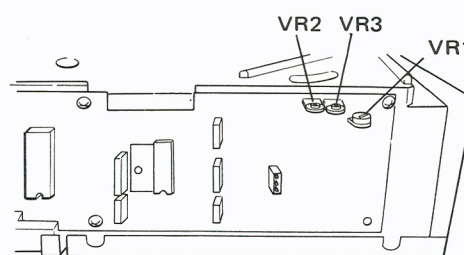


Fig. 9-5 Réglage de la vitesse du moteur phono

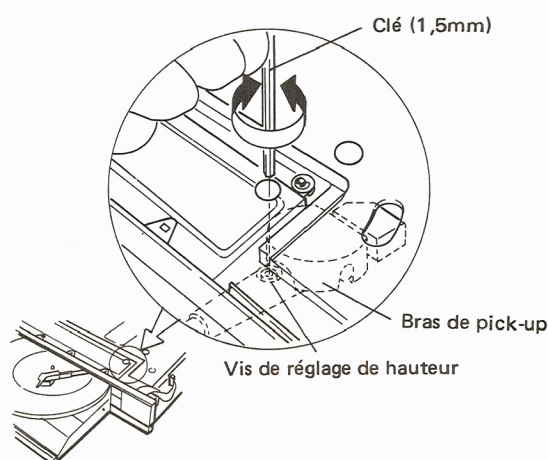


Fig. 9-6 Réglage de hauteur de l'aiguille

## 9. AJUSTE

### 9.1 AJUSTE DE LA POSICIÓN DE DESCENSO DE LA AGUJA

1. Presionar la tecla de apertura/cierre (OPEN/CLOSE), tirar hacia afuera de la base deslizable, colocar un disco de 30cm sobre el plato y poner la revolución correcta mediante el selector de velocidad.
2. Presionar la tecla de inicio START para comenzar la reproducción. Comprobar al mismo tiempo la dirección y el grado de desplazamiento de la aguja. (Estimar la distancia aproximada que hay en mm desde la aguja al surco inicial del disco).
3. Dependiendo de la dirección y el grado de desplazamiento, ajustar el tornillo de ajuste indicado en la Figura 9-1 con un pequeño destornillador.
  - \* Girar el tornillo hacia la derecha (mirando desde arriba) si la aguja desciende hacia el exterior del surco inicial del disco.
  - \* Girar el tornillo hacia la izquierda (mirando desde arriba) si la aguja desciende hacia el interior del surco inicial del disco.
  - \* Una media vuelta del tornillo corresponden de a un desplazamiento de aproximadamente 9mm en la posición de bajada.
4. Cuando se utilice el disco de prueba PLS-2001S, Ajustar el tornillo para obtener un valor comprendido entre 305 a 317 de descenso sobre un disco de 30cm. Y si se utiliza el disco de prueba GGF-021, ajustarlo a un valor entre 6 y 30 para un disco de 30cm.

#### Notas:

- \* La extracción de la cubierta simplifica las operaciones de ajuste. En este caso, los ajustes se pueden realizar desde la parte superior de la cubierta ornamental.
- \* No incline demasiado el giradiscos ni aplique excesiva presión al tornillo de ajuste durante la operación de ajuste.

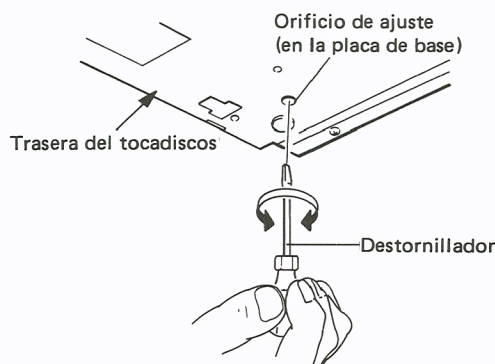


Fig. 9-1 Ajuste de la Posición de Descenso de la Aguja

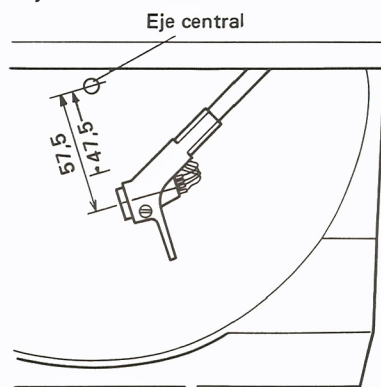


Fig. 9-2 Ajuste del Detector del Extremo 1

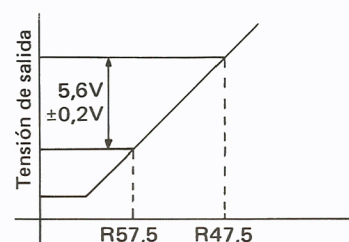


Fig. 9-3 Ajuste del Detector del Extremo 2

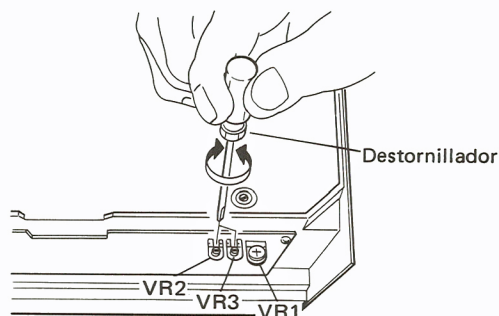
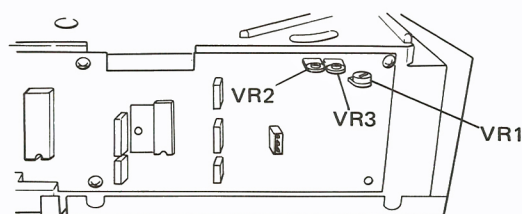


Fig. 9-4 Posición de Ajuste

### 9.2 AJUSTE DEL DETECTOR DEL EXTREMO

1. Extraer la cubierta, conectar la alimentación, presionar la tecla de apertura/cierre OPEN/CLOSE y tirar hacia afuera de la base deslizable.
2. Presione la tecla manual MANUAL para poner el giradiscos en el modo de reproducción manual y después desconectar la alimentación.
3. Desconectar los conectores CN2 y CN4 de la tarjeta de circuitos comunes y conectar un voltímetro de CC a la patilla 1 y a la patilla 3 (GND) de TP1.
4. Volver a conectar la alimentación, mover la aguja a una posición de 47,5mm desde el eje central y leer la tensión.



- Después mover la aguja a una posición de 57,5 mm alejada desde el eje central y leer de nuevo el medidor. La diferencia entre la lectura de las dos tensiones debe ser de  $5,6 \pm 0,2V$ . Ajustar VR1 para obtener esta diferencia.
- La diferencia de tensión disminuye girando el VR1 hacia la derecha y aumenta girándolo hacia la izquierda (consultar Figura 9-4).

*Nota:*

*Durante este ajuste proteger la sección del sensor contra la luz exterior.*

### 9.3 AJUSTE DE LA VELOCIDAD DEL MOTOR DEL GIRADISCOS

- Sacar la cubierta y conectar la alimentación. Colocar un estroboscopio sobre el plato y presionar la tecla manual MANUAL para poner el tocadiscos en el modo de reproducción manual.
- Cambiar el selector de velocidad a 33-1/3 rpm y ajustar VR2 para obtener el efecto de estrobo “estacionario”.
- Después cambiar el selector de velocidad a 45 rpm y ajustar otra vez VR3 para obtener el efecto de estrobo “estacionario”.
- La velocidad del giradiscos aumenta girando los controles de ajuste (VR2 y VR3) hacia la derecha y disminuye girándolos hacia la izquierda.

*Nota:*

*Ajustar la velocidad del motor del giradiscos después de haber ajustado previamente el mando de control de paso en el centro de detención.*

### 9.4 AJUSTE DE LA ALTURA DE LA AGUJA

- Sacar la cubierta, conectar la alimentación, presionar la tecla de apertura/cierre OPEN/CLOSE y tirar hacia afuera de la base deslizante.
- Colocar un disco sobre el plato y presionar la tecla manual MANUAL para mover el brazo fonocaptor hacia el disco.
- A la vez de retener el brazo fonocaptor con la mano izquierda, ajustar con una llave el tornillo de ajuste (1,5mm) pasándolo através del orificio de ajuste tal y como se muestra en la Figura 9-6.
- Ajustar la aguja a una altura de 5 a 9mm sobre el disco.

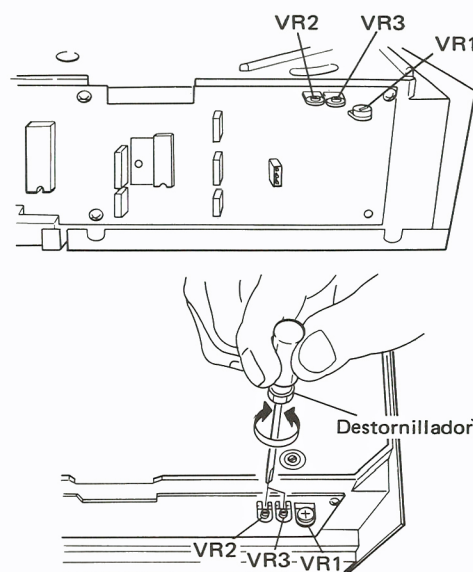


Fig. 9-5 Ajuste de la velocidad del motor giradiscos

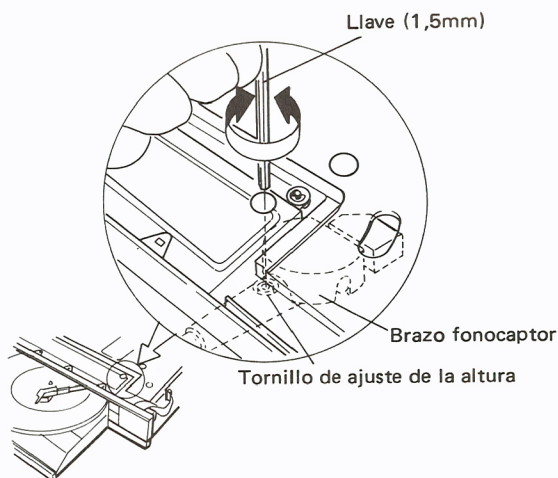


Fig. 9-6 Ajuste de la altura de aguja





ADDITIONAL



# Service Manual

STEREO TURNTABLE

# PL-05

HB, S, S/G

## 1. SPECIFICATIONS

### Motor and Turntable

Drive System ..... Belt-drive  
Motor ..... DC motor  
Turntable Platter .... 280 mm diam. aluminum alloy die-cast  
Speeds ..... 33-1/3 and 45 rpm  
Wow and Flutter ..... Less than 0.045% (WRMS)  
Signal-to-Noise Ratio ..... More than 70 dB (DIN-B)  
(with Pioneer cartridge model PC-3MC)

### Tonearm

Type ..... Integrated straight pipe arm

### PC-3MC Specifications

Type ..... Moving coil type  
Stylus ..... 0.5 mil diamond (PN-3 MC)  
Output Voltage ..... 2.5 mV  
(1 kHz, 50 mm/s Peak velocity, LAT)  
Tracking Force ..... 1.7 g to 2.3 g (proper 2 g)  
Frequency Response ..... 10 to 32,000 Hz  
Recommended Load ..... 50 k $\Omega$   
Weight ..... 3.1 g

### Accessory mechanisms

Full-auto functions based on motor specially designed for tonearm  
Auto disc size selector (17 cm, 30 cm)  
Arm elevation mechanism  
Built-in anti-skating

### Miscellaneous

#### Power Requirements

HB model ..... AC 220/240 V  $\sim$  (switchable), 50, 60 Hz  
S, S/G models ... AC110/120/220/240 V  $\sim$  (switchable),  
50, 60 Hz

#### Power Consumption

HB model ..... 15W  
S, S/G models ..... 10W

Dimensions ..... 420 (W) x 98 (H) x 335 (D) mm  
16-1/2 (W) x 3-3/4 (H) x 14-1/4 (D) in.

Weight ..... 9 kg/19 lb 14 oz

### Accessories

EP Adaptor ..... 1  
Operating Instructions ..... 1

#### NOTE:

*Specifications and design subject to possible modification without notice, due to improvements.*

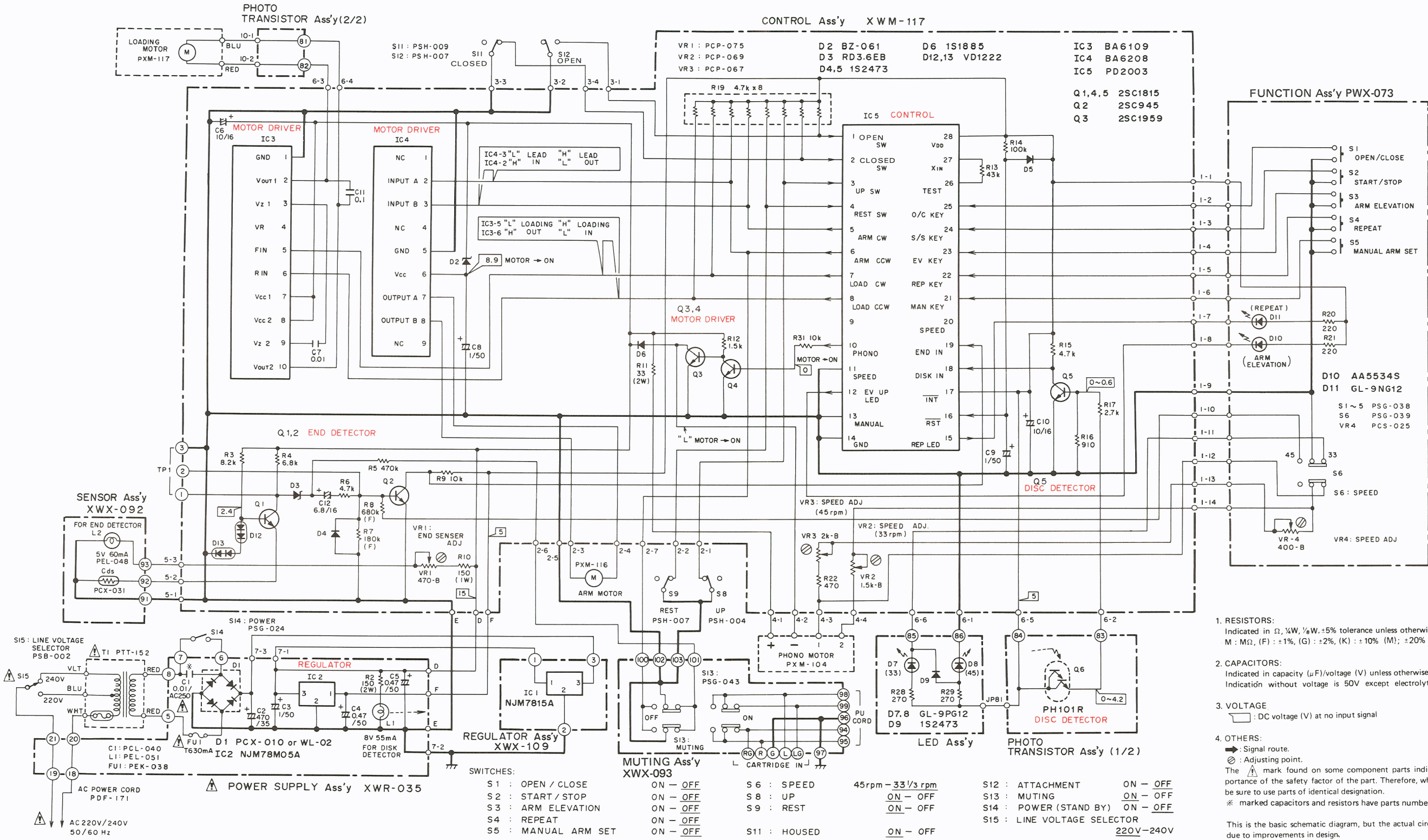
2. CONTRAST OF MISCELLANEOUS PARTS

- NOTES:
- Parts without part number cannot be supplied.
  - The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
  - For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★ .
- ★★ GENERALLY MOVES FASTER THAN ★
- This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

Mark	Symbol & Description	Part No.			
		HE Type	HB Type	S Type	S/G Type
⚠	Control assembly	XWM-112	XWM-117	XWM-099	XWM-099
	Power supply assembly	XWR-032	XWR-035	XWR-021	XWR-021
	Regulator assembly	XWX-107	XWX-109	XWX-089	XWX-089
	Front panel	PNX-480	PNX-480	PNX-401	PNX-401
⚠ ★	Power transformer (220V, 240V)	PTT-152	PTT-152	. . . .	. . . .
⚠ ★	Power transformer (110V, 120V, 220V, 240V)	. . . .	. . . .	PTT-153	PTT-153
⚠	Power cord (assembly)	PDF-170	PDF-171	PDG-028	PDG-028
⚠ ★★	Line voltage selector	PSB-002	PSB-002	PSB-007	PSB-007
	Operating instructions	PRD-081	PRB-217	PRB-217	PRB-217



# 3. SCHEMATIC DIAGRAM (HB TYPE)



The underlined indicates the switch position.



4. ELECTRICAL PARTS LIST

NOTES:

- When ordering resistors, first convert resistance values into code form as shown in the following examples.  
Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).  
560Ω 56 × 10<sup>1</sup> 561 . . . . RD¼PS 561 J  
47kΩ 47 × 10<sup>3</sup> 473 . . . . RD¼PS 473 J  
0.5Ω 0R5 . . . . . RN2H 0R5 K  
1Ω 010 . . . . . RS1P 010 K  
Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).  
5.62kΩ 562 × 10<sup>1</sup> 5621 . . . . RN¼SR 5621 F  
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.  
For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.  
★★ GENERALLY MOVES FASTER THAN ★  
This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

4.1 CONTROL ASSEMBLY (XWM-099)

Mark	Part No.	Symbol & Description
	CEA 100M 16L	C6, C10
	CEA 1R0M 50L	C8, C9
	CKDYF 104Z 50	C11
	CKDYF 103Z 50	C7
	CSZA 6R8K 16	C12

RESISTORS

NOTE:When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Part No.	Symbol & Description
★	PCP-075	VR1 Semi-fixed
★	PCP-069	VR2 Semi-fixed
★	PCP-067	VR3 Semi-fixed
	RS1PF151J	R10
	RS2HSFB330JL	R11
	RGSD8X472J	R19
	RN¼PR□□□□F	R7, R8
	RD¼PM□□□J	R3–R6, R9, R12–R16, R18, R31

SEMICONDUCTORS

Mark	Part No.	Symbol & Description
★★	BA6109	IC3
★★	BA6208	IC4
★★	PD2003	IC5
★★	2SC1815 (2SC2458) (2SC945)	Q1, Q4, Q5
★★	2SC945-P	Q2
★	2SC1959	Q3
★	BZ-061	D2
★	RD3.6EB	D3
★	1S2473 (1S1555)	D4, D5
★	1S1885	D6
★	VD1222	D12, D13

4.2 POWER SUPPLY ASSEMBLY (XWR-021)

Mark	Part No.	Symbol & Description
	PCL-040	C1
	CEA 471M 35L	C2
	CEA 1R0M 50L	C3
	CEA R47M 50L	C4, C5

RESISTORS

Mark	Part No.	Symbol & Description
	RS1HSFB220JL	R1
	RS2PF151J	R2

SEMICONDUCTORS

Mark	Part No.	Symbol & Description
★★	NJM78M05A	IC2
★	PCX-010 (WL-02)	D1

LAMP, OTHER

Mark	Part No.	Symbol & Description
★★	PEL-051	L1 Lamp
	PNY-009	Lamp holder

4.3 REGULATOR ASSEMBLY (XWX-089)

Mark	Part No.	Symbol & Description
★★	NJM7815A	IC1
	PDE-177	Connector (3P)

4.4 CONTROL ASSEMBLY (XWM-117)

Mark	Part No.	Symbol & Description
	CEA 100M 16	C6, C10
	CEA 1R0M 50L	C8, C9
	CKDYF 104Z 50	C11
	CKDYF 103Z 50	C7
	CSZA 6R8K 16	C12

RESISTORS

NOTE:When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Part No.	Symbol & Description
★	PCP-075	VR1 Semi-fixed
★	PCP-069	VR2 Semi-fixed
★	PCP-067	VR3 Semi-fixed
	RN¼PR□□□□F	R7, R8
	RS2HSFB330JL	R11
	RS1PF151J	R10
	RGSD8X472J	R19
	RD¼PM□□□J	R3–R6, R9, R12–R18, R31

SEMICONDUCTORS

Mark	Part No.	Symbol & Description
★★	BA6109	IC3
★★	BA6208	IC4
★★	PD2003	IC5
★★	2SC1815 (2SC2458) (2SC945)	Q1, Q4, Q5
★★	2SC945-P	Q2
★★	2SC1959	Q3
★	BZ-061	D2
★	1S1885	D6
★	1S2473 (1S1555)	D4, D5
★	RD3.6EB	D3
★	VD1222	D12, D13

4.5 POWER SUPPLY ASSEMBLY (XWR-035)

Mark	Part No.	Symbol & Description
	PCL-040	C1
	CEA 471M 35L	C2
	CEA 1R0M 50L	C3
	CEA R47M 50L	C4, C5

RESISTOR

Mark	Part No.	Symbol & Description
	RS2PF151J	R2

SEMICONDUCTORS

Mark	Part No.	Symbol & Description
★★	NJM78M05A	IC2
★	PCX-010	D1

LAMP, FUSE, OTHER

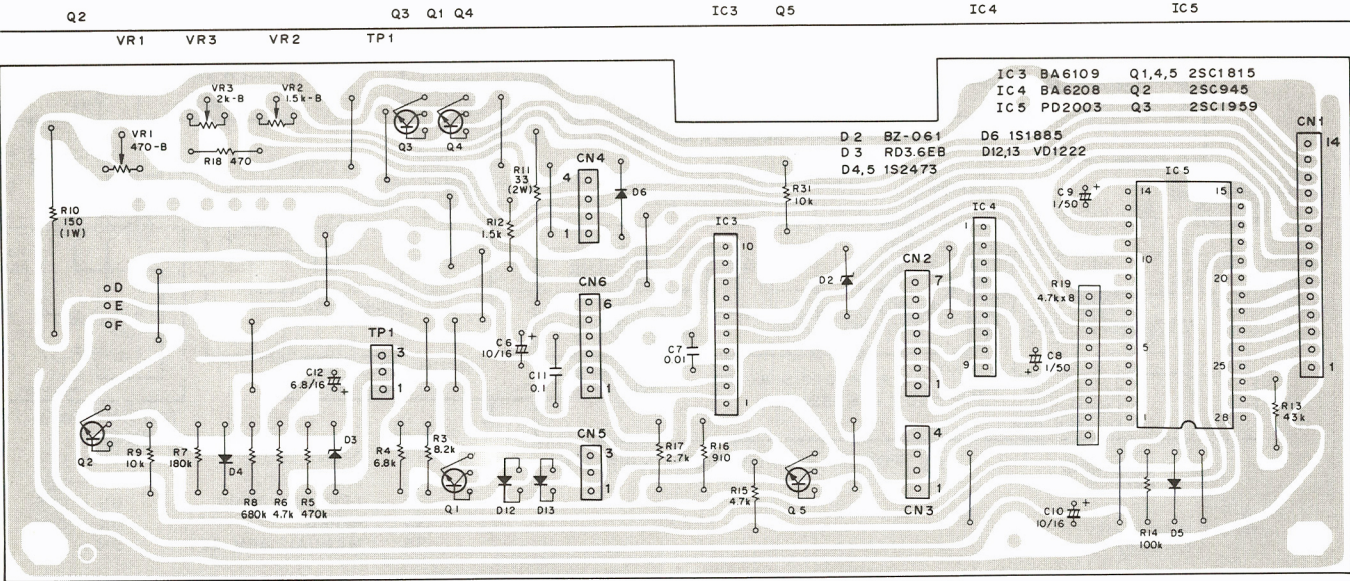
Mark	Part No.	Symbol & Description
★★	PEL-051	L1 Lamp
⚠ ★★	PEK-038	Fuse T630mA
	PNY-009	Lamp holder

4.6 REGULATOR ASSEMBLY (XWX-109)

Mark	Part No.	Symbol & Description
★★	NJM7815A	IC1
	PDE-196	Connector assembly (3P)

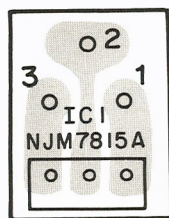
5. P.C. BOARDS ASSEMBLY

5.1 CONTROL ASSEMBLY (XWM-099)

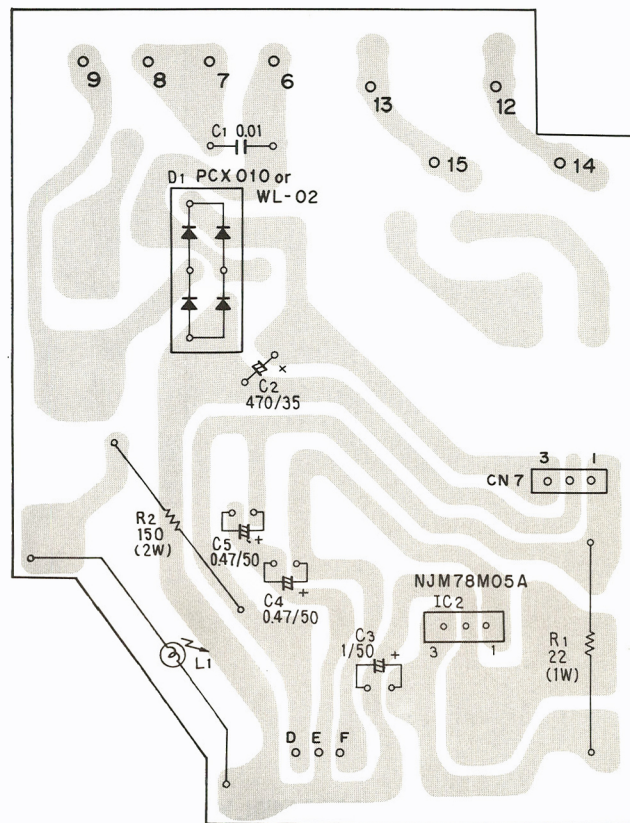




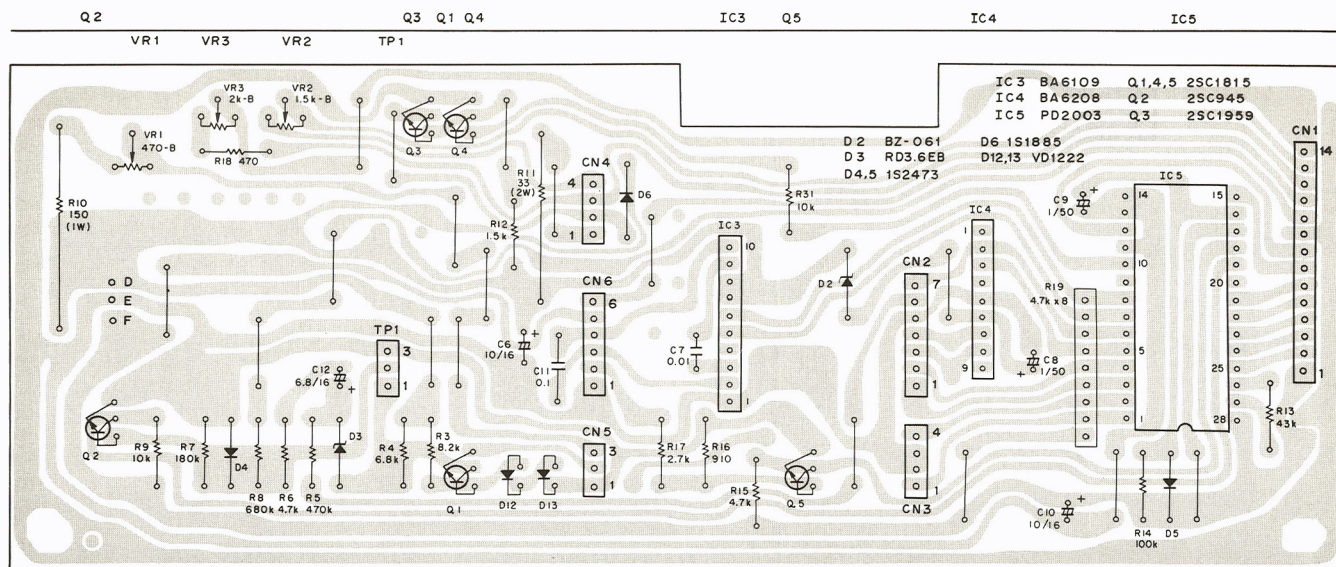
## 5.2 REGULATOR ASSEMBLY (XWX-089)



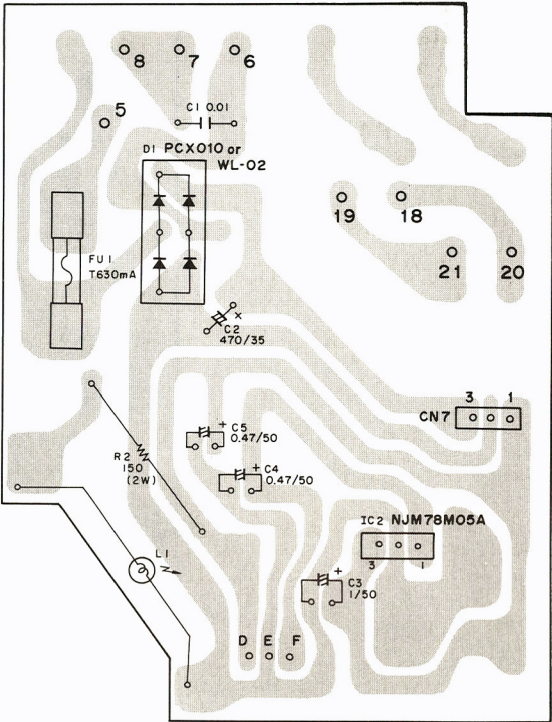
## 5.3 POWER SUPPLY ASSEMBLY (XWR-021)



## 5.4 CONTROL ASSEMBLY (XWM-117)



5.5 POWER SUPPLY ASSEMBLY (XWR-035)



5.6 REGULATOR ASSEMBLY (XWX-109)

